Valve Amplifier Revival

return of the 'warm' sound

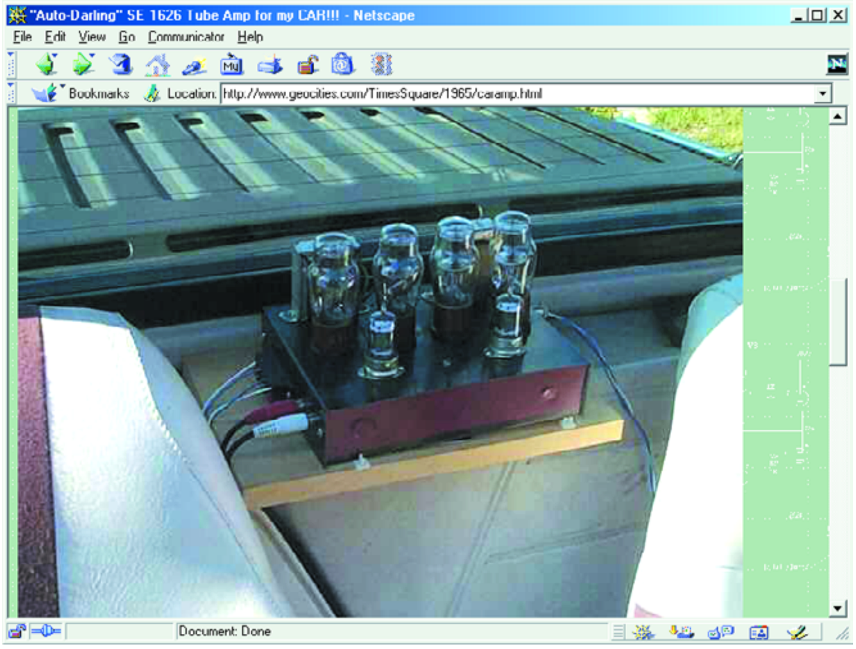
By Harry Baggen

Despite semiconductors being all around us, it seems that valves have never lost their appeal and even enjoy increasing interest from the 'all solid-state' generation. Among audio purists, valves have an excellent record for natural sound reproduction. The Internet is full of DIY valve amplifier designs, often complete with extensive description and photographs.

Despite the fact that semiconductors have been with us for more than 50 years, there is still a large number of audio lovers who prefer the warm sound of a valve amplifier over that produced by a transistor rig. Setting aside the air of nostalgia around valve amplifiers and their fine appearance, audio lovers will insist that valves are winners when it comes to sound reproduction with character. Despite the mechanical and electrical pitfalls encountered in the design and construction of valve amplifiers, like exotic transformers and dangerous supply voltages, thousands of enthusiasts enjoy tinkering with valves. Some do so with an innovative approach, while others focus on constructional aspects and strive to give their amplifier the best possible appearance.

On the Internet, a veritable galaxy of photographs may be found showing home built valve amplifiers. Once you start searching the net for websites covering valves, the amount of information is overwhelming. Besides true hobbyists you will also find companies professionally engaged in valve amplifier technology (still widely used in transmitters). Other firms specialize in kit, ready-built amplifiers or components. However these websites will not be discussed here since our aim was to see what was going on in the hobby department!

A great starting point for your explorations is the **World Tube Portal** [1], a website specialized in links to do with valves. Although these links have been sorted alphabetically, it is also possible to search in 105 categories.


"Auto-Darling" SE 1626 Tube Amp for my CAR!!! - Netscape
File Edit View Go Communicator Help
Bookmarks
Location: http://www.geocities.com/TimesSquare/1965/caramp.html
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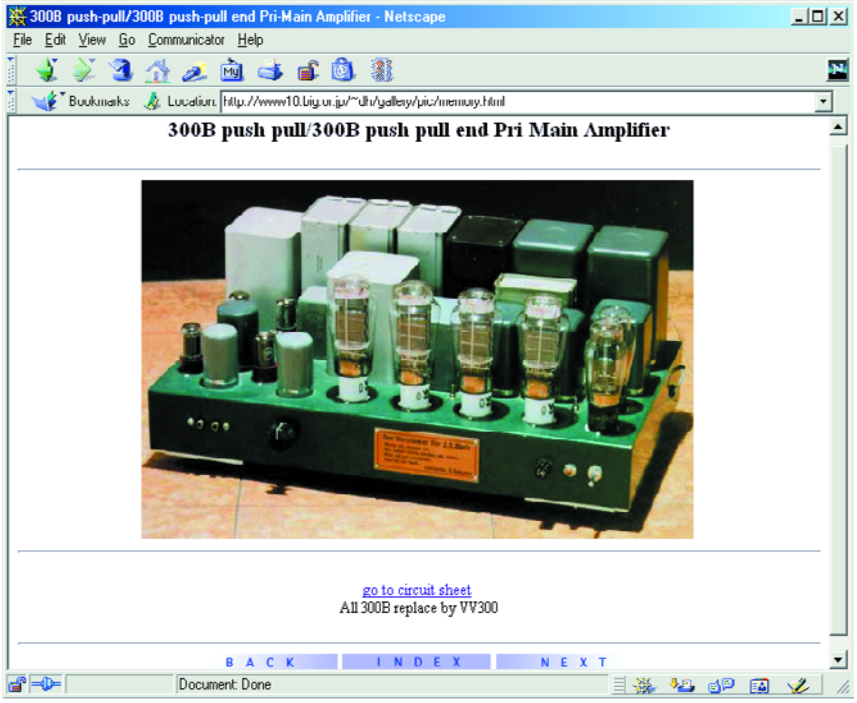
Two of these links found under the heading 'DIY Tube Audio Sites', **DIY Tube Amplifiers** and **DIY Tube Audio Sites** [2] are of particular interest to hobbyists. Together these two links cover about 150 websites.

Once you start visiting a couple of the websites mentioned on the portal, you soon notice that there is much more to be discovered. We had to make a selection from the vast amount of information on offer, and have to limit ourselves to a couple of sites we found either particularly attractively styled or rich in useful content.

To begin with, we should recommend **Audio Bizarro** from tube 'fanatic' Ralph Power. On his website Ralph shows a lot of photographs of valve amplifiers [3], which are a sight for sore eyes! Some amplifiers are complemented by a circuit diagram. However the feature *par excellence* of Ralph's website is his set of guidelines for



300B push-pull/300B push-pull end Pri-Main Amplifier - Netscape

http://www10.big.or.jp/~dh/gallery/pic/memory.html

300B push pull/300B push pull end Pri Main Amplifier

go to circuit sheet

All 300B replace by VV300

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newcomers [4]. On 14 pages, Ralph tells you all you need to know to get started with valve amplifiers for home construction.

The hobby is international, too, as we soon discovered. **Bob Danielek** from the USA [5] designs and builds valve amplifiers large and small. Of the latter, the 'Darling', a super simple 1.5-watt stereo design, is fairly well known. Another, more unusual, design is a valve amplifier for use in a car — Bob has actually succeeded in fitting his sports car with a small, valved amplifier incorporating a power inverter for the high voltage supply.

The Japanese also have a soft spot for valves and the relevant websites we came across are often marked by original ideas. Of the many websites we came across we should mention **Explore the wonders of direct heating** [6] which describes the Sakuma principle.

The Canadian website run by **Rudy Godmaire** [7] allows you enjoy a visual impression of his beautiful designs of 70-watt power amplifiers. Rudy was obviously inspired by the designs of Menno van der Veen, an authority in the field and author of the book *Modern High End Valve Amplifiers* published by Elektor Electronics.

Claudio Bonavolta [8] from Switzerland is convinced that only valves can bring across musical listening enjoyment. Besides a description of his own audio system (using a 300B single ended SRPP final amplifier), his 'Electronics' pages present a wealth of circuit diagrams employing transistors, valves and even hybrids. Here you will find nearly everything you need for a complete audio system, ranging from MC preamp to power amplifier.

Of German origin, **Roehrenfieber** [9] by Ulrich Romanski offers other valve amplifier constructors an opportunity to present their design on his website. Tuning tips are also discussed, and there is an interactive introduction into the basic operation of the valve.

The Dutch, too, have a reputation to keep up when it comes to 'all things valved'. **Aren's Attic** [10] not only presents a description of two amplifiers and a line amplifier, it also provides an excellent link list to glance through.

For those interested in the renowned Williamson amplifier design, the web pages put together by **Bert van der Kerk** [11] are worth visiting. There, the construction of a Williamson amplifier is described.

Triode Dick's page [12] is the third but by no means least Dutch website we should mention in this article. On his homepages, Dick reports on his own ventures in building valve amplifiers. Of particular interest are his extensive descriptions and carefully finished photographs that go with the designs. There are also quite a few tips for music to play through your valved stereo — apparently Dick is a great fan of Mobility Fidelity Soundlab.

Finally, two websites with lots of schematics of valve amplifiers from the past — an excellent source of inspiration for new designs! The British website **The Circuit Archive** [13] holds an extensive archive of all designs by Dynaco and Heathkit, which were once famous for their kits. The schematics cover a lot of valve designs.

The company **Triode Electronics Online** [14] has a website with an extensive archive of antique schematics. Most amplifier brands are found in the archives. If not, a link is given to another collection of schematics on the net.

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Internet addresses

[1] World Tube Audio Portal:
www.worldtubeaudio.com/
[2] DIY Tube Amplifiers en DIY Tube Audio Sites:
www.worldtubeaudio.com/diy_tube_amplifiers.htm
www.worldtubeaudio.com/diy_tube_audio_sites.htm
[3] Audio Bizarro Constructors Page:
www.spiritone.com/~tube/constructor.htm
[4] Building your own tube amp:
www.spiritone.com/~tube/ralphbuild.htm
[5] Bob's Music/Vacuum Tube Audio/electronics Page:
www.geocities.com/TimesSquare/1965/music_etc.html
[6] Explore the wonders of direct heating:
www10.big.or.jp/~dh/index.html
[7]Rudy Godmaire DIYer zone:
www3.sympatico.ca/r.godmaire/rg32e.html
[8] Claudio Bonavolta:
www.infomaniak.ch/~bonavolt/audio.htm
[9] Roehrenfieber:
www.roehrenfieber.de
[10] Aren's Attic:
http://members.tripod.lycos.nl/Aren/index.htm
[11] The Williamson Tube Amplifier:
www.spiritone.com/~tube/constructor.htm
[12] Triode Dick's Page:
www.triodedick.com/
[13] The Circuit Archive:
www.circuitarchive.co.uk/heath.htm
www.circuitarchive.co.uk/dynaco.htm
[14] Triode Electronics Online:
www.triodeel.com/schindex.htm